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IS 7296 (1992): Test Chart for Woodworking Surface Planing and Thickness Machines [PGD 3: Machine Tools]



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“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
सतह रंदा तथा मोटाई देने की काष्ठकर्म मशीनों
का परीक्षण चार्ट

(पहला पुनरीक्षण)

Indian Standard

TEST CHART FOR WOODWORKING SURFACE
PLANING AND THICKNESSING MACHINES

(First Revision)

UDC 674'056 : 621'952'252 : 620'1 (084'3)

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BUREAU OF INDIAN STANDARDS

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NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical with ISO 7570 : 1986 'Woodworking machines — Surface planing and thicknessing machines — Nomenclature and acceptance conditions' issued by the International Organization for Standardization (ISO), was adopted by the Bureau of Indian Standards on the recommendations of the Woodworking Machines Sectional Committee (PE 01) and approval of the Production Engineering Division Council.

This standard was first issued in 1974. Consequent upon the publication of ISO 7570 : 1986, this standard has been revised by adopting ISO 7570 : 1986 to bring it in line with ISO standard. In this revision, clause references of ISO 230-1 : 1986 for method of tests has been incorporated which were not there earlier.

The text of ISO standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker in ISO Standard while in Indian Standard the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards exist. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Indian Standard</i>	<i>Degree of Correspondence</i>
ISO 230-1 : 1986	IS 2063 : 1988 Code for testing machine tools (<i>first revision</i>)	Identical
ISO 7984 : 1988 Woodworking machines — Technical classification of woodworking and auxiliary machines (<i>see Note</i>)	NIL	—

NOTE — The technical committee responsible for the preparation of this standard has decided that the provisions of this ISO standard, is acceptable for use in conjunction with this standard.

Only the English language text of the International Standard has been retained while adopting it as Indian Standard.

Indian Standard

TEST CHART FOR WOODWORKING SURFACE PLANING AND THICKNESSING MACHINES

(First Revision)

1 Scope and field of application

This International Standard specifies the appropriate terminology for each part of the machine and, with reference to ISO 230/1, the geometrical tests for surface planing and thicknessing machines; it also gives the corresponding permissible deviations which apply to machines of general purpose use and normal accuracy.

This International Standard deals only with the verification of accuracy of the machine. It does not apply to testing the running of the machine (vibrations, abnormal noises, stick-slip motion of the components, etc.), nor to its characteristics (speeds, feeds, etc.) which should generally be checked before testing accuracy.

This International Standard does not impose any practical test for surface planing and thicknessing machines. Practical tests should be exceptions and have to be stated in a previous agreement between the manufacturer and the user.

This International Standard applies to those machines designated by the number 12.81 in ISO 7984.

2 References

ISO 230/1, *Acceptance code for machine tools — Part 1: Geometric accuracy of the machine operating under no load or finishing conditions.*

ISO 7984, *Woodworking machines — Technical classification of woodworking and auxiliary machines.*¹⁾

3 Preliminary remarks

3.1 In this International Standard all dimensions and permissible deviations are expressed in millimetres.

3.2 To apply this International Standard, reference should be made to ISO 230/1, especially for installation of the machine before testing, the warming up of the main spindle and other moving parts, and description of measuring methods. The measuring instruments shall not permit errors over 1/3 of the tolerances being checked.

3.3 The sequence in which the geometrical tests are given is related to the sub-assemblies of the machine and this in no way defines the practical order of testing. In order to make the mounting of instruments or gauging easier, tests may be applied in any order.

3.4 It is not always possible nor necessary to carry out all the tests given in this International Standard.

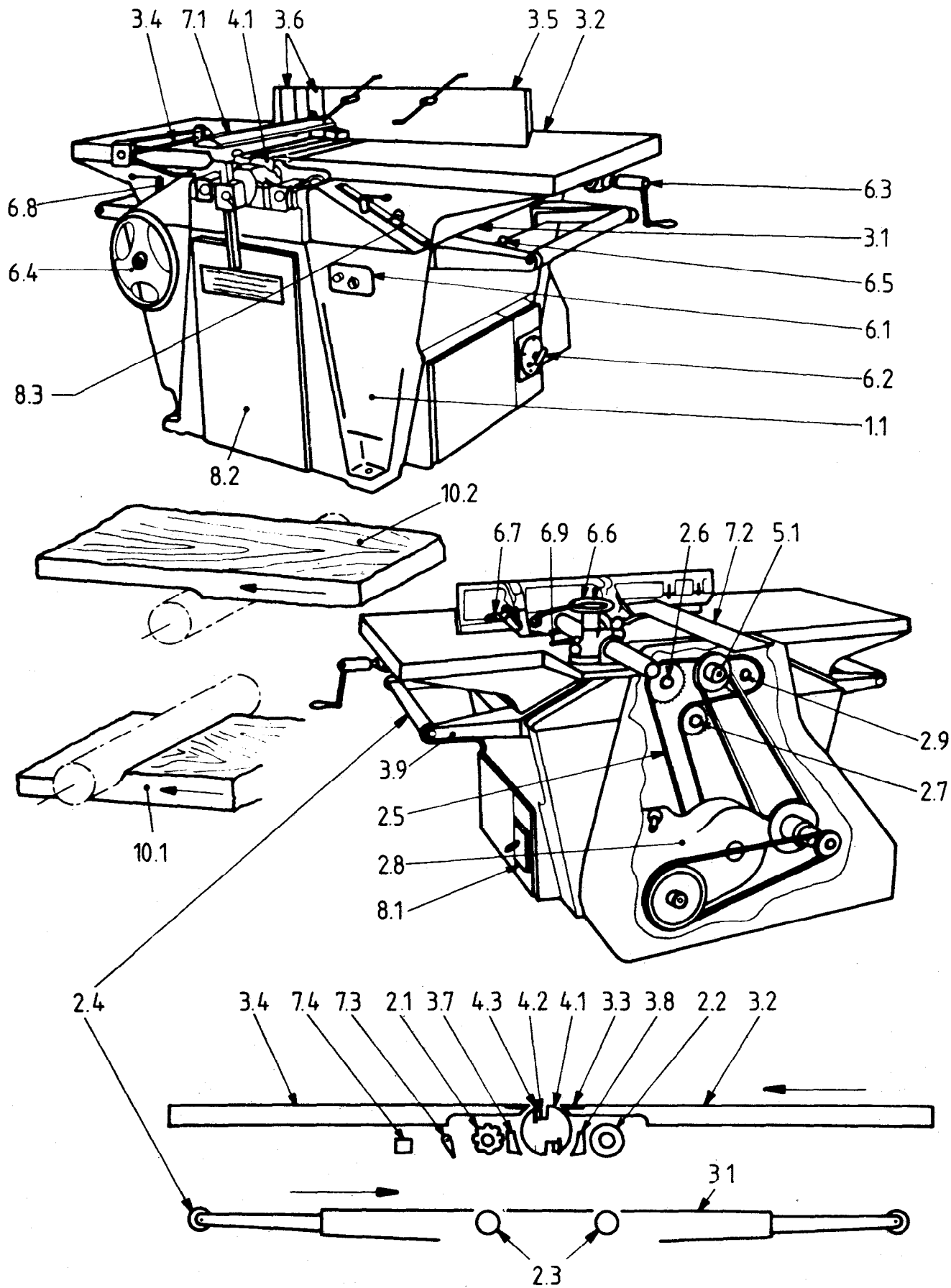
3.5 It is up to the user to choose, in agreement with the manufacturer, those tests relating to the properties which are of interest to him, but these tests shall be clearly stated when ordering a machine.

3.6 A movement is longitudinal when it takes place in the working direction of the piece.

3.7 When establishing the tolerance for a measuring range different from that given in this International Standard (see clause 2.311 in ISO 230/1), it should be taken into consideration that the minimum value of the tolerance is 0,01 mm.

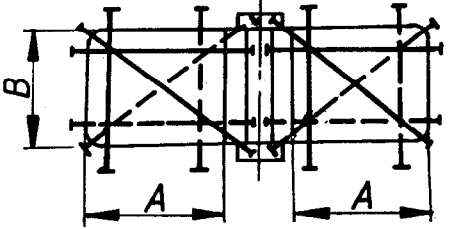
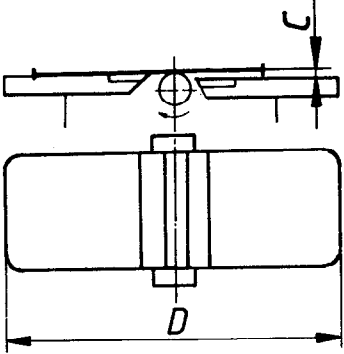
1) At present at the stage of draft.

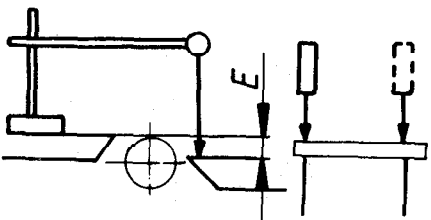
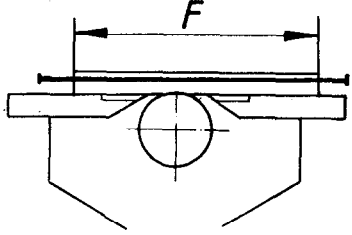
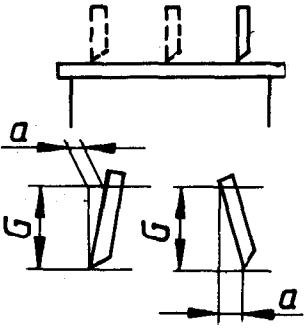
4 Nomenclature

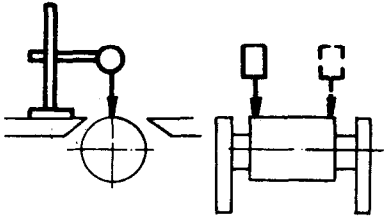
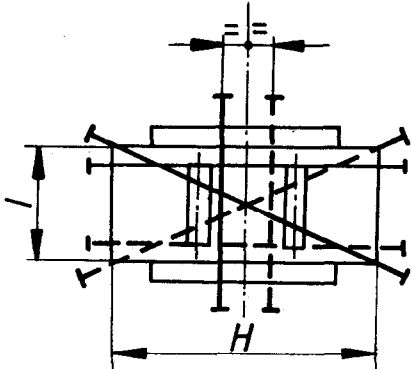


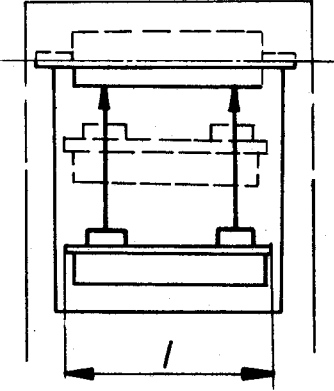
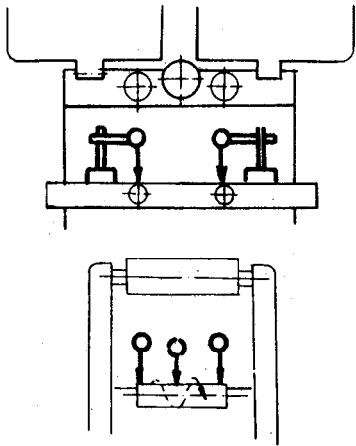
Reference	English
	Surface planing and thicknessing machines
1	Framework
1.1	Main frame
2	Feed of workpiece and/or tools
2.1	Infeed feed roller
2.2	Outfeed feed roller
2.3	Thicknessing table rollers
2.4	Table extension roller
2.5	Feed roller drive chain
2.6	Feed roller drive sprockets
2.7	Tensioning roller sprockets
2.8	Speed reduction gearbox or variable speed gear
2.9	Outfeed roller drive sprockets
3	Workpiece, support clamp and guide
3.1	Thicknessing table
3.2	Infeed surfacing table
3.3	Surfacing table lip plates
3.4	Outfeed surfacing table
3.5	Canting fence
3.6	Fence gauge plates
3.7	Infeed pressure bar
3.8	Outfeed pressure bar
3.9	Table extension support arm
4	Tool-holders and tools
4.1	Cutterblock
4.2	Cutterblock wedge
4.3	Blade
5	Workheads and tool drives
5.1	Cutterblock bearing
6	Controls
6.1	Starting switch
6.2	Isolating switch
6.3	Surfacing table vertical adjustment
6.4	Thicknessing table vertical adjustment
6.5	Thicknessing table rollers vertical adjustment
6.6	Fence fine adjustment
6.7	Fence canting adjustment
6.8	Surfacing table drawback lock
6.9	Fence transverse lock
7	Safety devices
7.1	Cutterblock guard (bridge guard)
7.2	Cutterblock rear guard
7.3	Anti-kick-back fingers
7.4	Cut depth limiter
8	Miscellaneous
8.1	Dust extraction outlet
8.2	Access door to control gear
8.3	Scale for thicknessing
9	(clause free)
10	Examples of work
10.1	Thicknessing
10.2	Planing

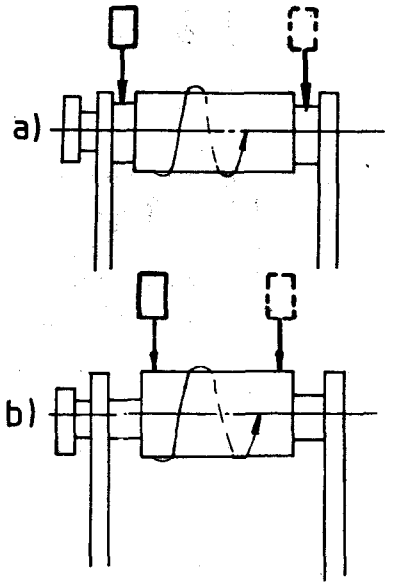
5 Acceptance conditions and permissible deviations — Geometrical tests

No.	Diagram	Object	Permissible deviations	Measuring instruments	Observations and references in ISO 230/1 test code
G1		<p>Checking of flatness of the tables:</p> <p>a) longitudinal straightness</p> <p>b) diagonal straightness</p> <p>c) transverse straightness</p>	<p>a) and b)</p> <p>0,10 for $A < 630$</p> <p>0,20 for $630 < A < 1\ 250$</p> <p>0,30 for $A > 1\ 250$</p> <p>c)</p> <p>0,10 for $B < 400$</p> <p>0,15 for $B > 400$</p>	<p>Straightedge and feeler gauges</p>	<p>Clauses 5.212 and 5.322.</p>
G2		<p>Parallelism of the two surface planing tables longitudinally</p>	<p>$C = 5$</p> <p>0,10 for $D < 1\ 250$</p> <p>0,25 for $1\ 250 < D < 2\ 500$</p> <p>0,40 for $D > 2\ 500$</p>	<p>Straightedge, slip gauges and feeler gauges</p>	<p>Flat to convex.</p>

No.	Diagram	Object	Permissible deviations	Measuring instruments	Observations and references in ISO 230/1 test code
G3		Checking of parallelism of the lips of the surface planing tables transversely	$E = 5$ $0,10$	Dial gauge	Clause 5.412.2
G4		Checking of straightness of the canting fence	$0,30$ for $F < 800$ $0,40$ for $F > 800$	Straightedge and feeler gauges	Clause 5.212
G5		Checking of squareness of the canting fence to the table	a/G $0,10/100$	Square and feeler gauges	

No.	Diagram	Object	Permissible deviations	Measuring instruments	Observations and references in ISO 230/1 test code
G6		<p>Checking of parallelism of the cutterblock to the outfeed surface planing table</p>	<p>0,10 where the blades setting device is not carried from the cutterblock</p> <p>0,05 where the blades setting device is carried from the cutterblock</p>	<p>Dial gauge</p>	<p>Clause 5.412.4</p>
G7		<p>Checking of flatness of the thickening table:</p> <p>a) longitudinal straightness</p> <p>b) diagonal straightness</p> <p>c) transverse straightness</p>	<p>a) and b)</p> <p>0,20 for $H < 1\ 000$</p> <p>0,30 for $H > 1\ 000$</p> <p>c)</p> <p>0,10 for $I < 400$</p> <p>0,15 for $I > 400$</p>	<p>Straightedge and feeler gauges</p>	<p>Clauses 5.322 and 5.212</p> <p>For verification c) check in two places each about 50 mm on either side of the cutterblock.</p>

No.	Diagram	Object	Permissible deviations	Measuring instruments	Observations and references in ISO 230/1 test code
G8		<p>Checking of parallelism of the thickening table in upper and lower positions to the cutterblock</p>	<p>0,10 for $l < 400$ 0,15 for $l > 400$</p>	<p>Dial gauge</p>	<p>Clause 5.412.4</p>
G9		<p>Measuring of run-out of the thickening table rollers</p>	<p>0,15</p>	<p>Dial gauge</p>	<p>Clause 5.612.2 Checked at the end and centre of each roller.</p>

No.	Diagram	Object	Permissible deviations	Measuring instruments	Observations and references in ISO 230/1 test code
G10	 <p>a)</p> <p>b)</p>	Measuring of run-out of the horizontal cutterblock	0,03	Dial gauge	<p>Clause 5.612.2</p> <p>a) Where the blade setting device is carried from the block shoulders check the shoulders.</p> <p>b) Where the blade setting device is carried from the cutterblock check on the block.</p>

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